

## Fact Sheet: Iron in Water and the Water Supply at Prairie Pointe

### The main take away

- The Prairie Pointe Subdivision is experiencing intermittent discolored (yellow) water caused by elevated levels of iron in the water. The elevated iron is due to the iron removal/filtration system being offline.
- The USEPA and Illinois EPA regulate iron in water to control aesthetic considerations, such as taste, color and odor. ***Iron does not pose a risk to human health.***
- A backup iron treatment system is in place but is not as efficient as the primary system.
- We are finalizing the schedule for the repairs to the primary iron removal system.
- If you experience discolored water, please call Public Works.
  - Running your faucet(s) for 10 to 20 minutes may clear the problem.
  - You can ***receive a credit*** on your bill for up to 2,000 gallons to cover the expense of this flushing – just call Public Works.
- Commercial home water softeners and iron removal system are available but may not be cost effective investments given the expected timeframe for the permanent repairs to be completed on the water system.

### Background

Iron is one of the most plentiful elements in the earth's crust, and as a result it is commonly found in groundwater in Lake County. The iron in drinking water is generally dissolved, but when the water is exposed to air, it comes out of solution and can cause the water to turn a cloudy yellow or reddish-brown.

### Drinking water standards

The US Environmental Protection Agency (USEPA) sets standards for contaminants in drinking water.

**Primary standards** have maximum contaminant levels (MCLs) that *"are established to protect the public against consumption of drinking water contaminants that present a risk to human health."*<sup>2</sup> These standards are enforceable and must be met in water delivered to consumers.

**Secondary standards** have secondary maximum contaminant levels (SMCLs) that *"are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the SMCL."*<sup>2</sup> These standards are not enforceable and public water systems need only test for the items covered in the secondary standards on a voluntary basis.

### Health effects of iron in water

**Iron is one of the contaminants listed in IEPA's** (Illinois Environmental Protection Agency) **secondary standards**. The IEPA SMCL for iron is set at 1.0 mg/L. It is at this level where its presence becomes noticeable and may cause nuisance effects such as taste, odor and staining. The USEPA's recommended SMCL for iron is 0.3 mg/L. The Prairie Pointe water system is regulated by the IEPA but Lake County strives to meet the lower EPA goal.

The USEPA indicates the following regarding the potential health effects of secondary standard contaminants:

*“EPA believes that if these contaminants are present in your water at levels above these standards, the contaminants may cause the water to appear cloudy or colored, or to taste or smell bad. This may cause a great number of people to stop using water from their public water system even though **the water is actually safe to drink.**”<sup>2</sup>*

The World Health Organization, in a study assessing the potential health risks of iron in drinking water, concluded that *“iron concentrations of 1–3 mg/litre can be acceptable for people drinking and that “No health-based guideline value for iron is proposed.”<sup>3</sup> Finally, the Illinois Department of Public Health states that “ iron is not hazardous to health, but it is considered a secondary or aesthetic contaminant. Essential for good health, iron helps transport oxygen in the blood.”<sup>1</sup>*

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**Sources:**

<sup>1</sup>Illinois Department of Public Health: Iron In Drinking Water  
<http://www.idph.state.il.us/envhealth/factsheets/ironFS.htm>

<sup>2</sup>USEPA: Secondary Drinking Water Standards: Guidance for Nuisance Chemicals  
<https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals>

<sup>3</sup>World Health Organization: Iron in Drinking-water  
[http://www.who.int/water\\_sanitation\\_health/dwq/chemicals/iron.pdf](http://www.who.int/water_sanitation_health/dwq/chemicals/iron.pdf)